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ZOTAROLIMUS ELUTING STENT VERSUS EVEROLIMUS ELUTING STENT IN PERCUTANEOUS CORONARY INTERVENTION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Poster Contributions
Poster Hall B1
Sunday, March 15, 2015, 3:45 p.m.-4:30 p.m.

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Background: Zotarolimus eluting stents (ZES) and Everolimus eluting stents (EES) with durable polymer are the most commonly used second and third generation drug-eluting stents (DES) during percutaneous coronary revascularization (PCI). Previously conducted randomized (RCTs) and observational trials have shown variable results pertaining to their relative efficacy including a prior meta-analysis of observational trials showing superiority of EES. We sought to perform a meta-analysis of published RCTs comparing ZES to EES for various the clinical outcomes at one year.

Methods: PubMed, Web of Science were searched through Sept 15th 2014 for relevant publications in English language comparing ZES with EES. Clinical outcomes assessed at one year from procedure were all cause death, cardiac death, myocardial infarction (MI), definite and any stent thrombosis (ST), clinically driven target lesion revascularization (TLR), clinically driven target vessel revascularization (TVR), major adverse cardiac events (MACE: composite of death/MI/clinically driven TLR) and target lesion failure rate (TLF: composite of cardiac death/ target vessel related MI/clinically driven TLR). Study quality, publication bias, heterogeneity were assessed. Random effect model used for data analysis.

Results: Five RCTs with 9847 patients (ZES: 4295, EES: 5552) satisfying the study criteria were included for analysis. Mean age (ZES: 64.2, EES: 64.3 years) and gender distribution (Males: ZES 71.7%, EES 72.5%) were similar in both groups. There was no significant difference in the clinical outcomes like all cause death (RR= 0.92 CI: 0.63-1.34 p=0.67), cardiac death (RR= 0.97 CI: 0.68-1.38 p=0.85), MI (RR= 1.07 CI: 0.9-1.28 p=0.44), definite ST(RR= 1.59 CI: 0.60-4.21 p=0.34), any ST(RR= 1.24 CI: 0.88-1.75 p=0.21), TLR(RR= 1.18 CI: 0.93-1.51 p=0.17), TVR(RR= 1.05 CI: 0.83-1.34 p=0.66), MACE (RR= 1.09 CI: 0.91-1.30 p=0.34) and TLF(RR= 1.07 CI: 0.90-1.27 p=0.44) between ZES and EES groups at one year.

Conclusion: In this first reported meta-analysis of RCTs, we found that ZES and EES have equivalent safety and efficacy in terms of various clinical outcomes at one year and hence can be used interchangeably during PCI.